

Patent Claims

1. A roof opening system for automotive vehicles comprising one or several at least partly transparent vehicle covers (1) and at least one shade element (2), characterized in that with only one electric drive (4) the at least one transparent vehicle cover (1) and the at least one shade element (2) are each movable independently of each other over the whole opening area provided in the vehicle.
2. The roof opening system according to claim 1, characterized in that the movements of the at least one vehicle cover (1) and the at least one shade element (2) take place relative to at least one rigid guide element (3).
3. The roof opening system according to claim 2, characterized in that the at least one vehicle cover (1) is movable along the at least one rigid guide element (3) or is pivotable relative to the at least one rigid guide element (3).
4. The roof opening system according to any one of claims 1 to 3, characterized in that the electric drive (4) for opening and closing the at least one vehicle cover (1) and the at least one shade element (2) has only one respective direction of rotation and effects a linear movement of at least one drive element (5a) by means of a drive cable (6).
5. The roof opening system according to claim 4, characterized in that the at least one drive element (5a) is configured such that it performs exactly three respective coupling and/or locking operations for the opening or closing action.
6. The roof opening system according to any one of claims 1 to 5, characterized in that the at least one shade element (2) comprises at least one shade guide (5c).

7. The roof opening system according to claim 6, characterized in that the shade guide (5c) is configured to be lockable in the rigid guide element (3) and coupleable to at least one drive element (5a).
8. The roof opening system according to any one of claims 1 to 7, characterized in that in the area of the front edge of the vehicle cover the at least one vehicle cover (1) is movably supported in at least one rigid guide element (3) by means of at least one vehicle-cover movable bearing (5b).
9. The roof opening system according to any one of claims 1 to 8, characterized in that the at least one vehicle cover (1) comprises at least one detachable fixed bearing.
10. The roof opening system according to claim 9, characterized in that at least one control rod (5f) is rotatably supported in the at least one fixed bearing of the at least one vehicle cover (1), said fixed bearing being detachable in the rigid guide element (3).
11. The roof opening system according to claim 10, characterized in that the at least one control rod (5f) is rotatably supported in at least one vehicle-cover locking element (5e).
12. The roof opening system according to claim 11, characterized in that the at least one vehicle-cover locking element (5e) is configured to be lockable in the at least one rigid guide element (3) and coupleable with the at least one drive element (5a).
13. The roof opening system according to any one of claims 10 to 12, characterized in that it comprises a vehicle-cover control element (5d), and the at least one control rod (5f) and the at least one vehicle-cover control element (5d) are configured such that they engage each other in form-fit fashion.

14. The roof opening system according to claim 13, characterized in that the at least one vehicle-cover control element (5d) is slidably supported in the at least one rigid guide element (3).
15. The roof opening system according to claim 13 or 14, characterized in that the at least one vehicle-cover control element (5d) is configured to be lockable in the at least one rigid guide element (3) and coupleable with the at least one drive element (5a).
16. The roof opening system according to any one of claims 13 to 15, characterized in that the at least one vehicle-cover control element (5d) comprises the at least one control path (8).
17. The roof opening system according to any one of claims 13 to 15, characterized in that the at least one control rod (5f) comprises at least one control path (8).
18. The roof opening system according to any one of claims 1 to 17, characterized in that the at least one drive element (5a) is moved by the one electric drive (4) along the at least one rigid guide element (3).
19. The roof opening system according to any one of claims 13 to 18, characterized in that the at least one drive element (5a) is configured such that it interacts by way of coupling and decoupling with the at least one shade guide (5c), at least the one vehicle-cover control element (5d) and the at least one vehicle-cover locking element (5e).
20. The roof opening system according to any one of claims 1 to 4, 6, characterized in that exactly two coupling and/or locking operations are required for a respective movement cycle opening or closing of the at least one vehicle cover (1) and/or at least one shade element (2).

21. The roof opening system according to claim 20, characterized in that the shade guide (5c) is configured to be lockable in the rigid guide element (3) and coupleable with at least one drive element (16).
22. The roof opening system according to any one of claims 20 or 21, characterized in that the at least one vehicle cover (1) is connected to at least one vehicle-cover connection element (19).
23. The roof opening system according to any one of claims 20 to 22, characterized in that at least one path element (18) is guided in the at least one rigid guide element (3).
24. The roof opening system according to claim 23, characterized in that at least one vehicle-cover locking element (18a) is part of the at least one path element (18).
25. The roof opening system according to any one of claims 23 or 24, characterized in that the at least one path element (18) comprises at least one cover movement path (18b).
26. The roof opening system according to any one of claims 24 or 25, characterized in that the at least one vehicle-cover locking element (18a) is configured to be lockable in the at least one rigid guide element (3).
27. The roof opening system according to any one of claims 24 to 26, characterized in that the at least one vehicle-cover locking element (18a) is configured to be coupleable with the at least one drive element (16).
28. The roof opening system according to any one of claims 22 to 27, characterized in that at least one vehicle-cover connection element (19) is guided in form-fit

fashion with at least one slide bolt (20) and at least one control bolt (17) in the at least one cover movement path (18b).

29. The roof opening system according to claim 28, characterized in that the at least one control bolt (17) is guided in form-fit fashion in the at least one rigid guide element (3) and in at least one cover control path (22).